

REMARKS

Amendments to the Claims

Claims 1 and 15 have been amended to recite that at least one plane of each recess or protrusion initiates at least one plane of another protrusion or recess. Claim 9 has been amended to recite that the planar sides of the recesses and protrusions are inclined at angles of less than 90° relative to the sipe centerline. All of the Figures of the invention illustrate these aspects of the recesses and protrusions; thus one skilled in the art would recognize upon reading the specification that the new language reflects what the specification shows had been invented by Applicants at the time the application was filed.

35 U.S.C. § 102(b)

In order for a reference to fully anticipate a claim under 35 U.S.C. § 102, the reference must disclose each and every element of the claimed invention.

a) Claims 1-6, 9-10, and 13 have been rejected under 35 U.S.C. § 102(a) as being anticipated by Japan 105 (JP 2002-356105). The abstract, Figure 3(b) and paragraph 25 are relied upon to hold the claims anticipated. This rejection is respectfully traversed for the following reasons.

Paragraph 25 identifies the configurations of crevices 11a and heights 11b of the Figure 3(b) sipe as being a “square drill.” The only thing that is *clearly* evident from the figure and the description is that the base of the configuration is square and is formed of four planes inclined from the sipe centerline. However, Figure 3(b) does not make it clear if the crevices and heights terminate in a point or a planar vertex. In Figure 3(b), shading marks in the center of the heights 11b are lacking so as to make the “+” evident.

One skilled in the art must rely upon the remaining teachings of Japan 105 to determine the complete configuration of the “square drills”. Figure 3(a) also has the shading marks eliminated from the center of the heights 11b, while the side views of the sipe, as seen in Figures 2(b) and 2(c), show that the heights and crevices go to a peak. In describing other possible configurations, a semi-sphere in the shape of a cone or a triangular pyramid, Japan 105 teaches that the configurations terminate in a point, not a plane. Thus, in forming the three dimensional sipe elements, including the “square drill” elements, Japan 105 teaches terminating the crevices and heights in a point, not a plane as recited in claim 1.

Additionally, while understanding that a machine translation is not a perfect

translation of the original Japanese language, Applicants have attempted to understand what is meant by “square drill.” In common language, a square drill is either a description of a type of curved sided triangle (one that can rotate within a square) or a square drill bit of the type used with a rotary power tool wherein the bit either has a square base for engagement with the power tool or a twisted four sided drill portion that terminates in a point to permit drilling of a material. In the context of Japan 105, only the last of the three possible interpretations appears to be relevant. If this is the applicable interpretation, Japan 105 still teaches terminating the crevices and heights in a point.

As Japan 105 does not appear to teach and disclose all of the elements of claim 1, it is requested that this rejection be reconsidered and withdrawn.

b) Claims 1, 3-6, 9-10, 13, 15, and 17-19 have been rejected under 35 U.S.C. § 102(b) as anticipated by Japan 925 (JP 2000-102925). The abstract and Figure 14 of Japan 925 are relied upon to hold the claims anticipated. This rejection is respectfully traversed for the following reasons.

The abstract relied upon in the rejection is completely silent about alternating rows of recesses and projections; instead it discloses that the solution of the invention is directed to forming a blade to create a sipe having different thickness sections.

Figure 14 shows a sipe blade wherein portions of the stacked metal plates forming the sipe blade have square sections cut therefrom - the squares appearing to alternate on sides of the blade. This would result in a sipe having alternating square indentations therein. It is questionable if the resulting sipe can be characterized as having alternating recesses and protrusions.

Claims 1 and 15 recite that at least one plane of the each recess or protrusion initiates at least one plane of another protrusion or recess. The cut out squares of the sipe blade of Japan 925 are spaced from one another in both the vertical and horizontal direction of the blade; thus, with any probable recesses or protrusions formed, it is not possible for one plane of each recess or protrusion to initiate a plane of another protrusion or recess.

As Japan 925 fails to disclose all of the claimed elements, Japan 925 fails to anticipate the claimed invention, and it is requested that this rejection be reconsidered and withdrawn.

c) Claims 1, 5-6, 9-10, 15, and 18-20 have been rejected under 35 U.S.C. § 102(b) as anticipated by Ishihara (US 2002/0139164). Figures 16(b) and 17(a)ii of Ishihara are relied

upon to hold the claims anticipated. This rejection is respectfully traversed for the following reasons.

Figures 16(b) and 17(a)ii of Ishihara, and the text describing these Figures, teach a sipe blade comprising a primary pattern and a secondary pattern to form a three dimensional sipe blade. The primary pattern is an overall corrugated pattern and the secondary pattern is a very small pattern of long offsetting recesses and protrusions.

Claims 1 and 15 recite a sipe and a blade comprising at least two horizontal rows of alternating recesses and protrusions. There is nothing in Ishihara that teaches or suggests multiple rows of a first or secondary pattern of the type recited by Applicants. Thus, it is requested that the rejection of the claims over Ishihara under 35 U.S.C 102(b) be withdrawn.

d) Claims 1-6, 13 and 15-19 have been rejected under 35 U.S.C. 102(b) as being anticipated by Japan 923 (JP 10-80923). This rejection is respectfully traversed for the following reasons.

Claims 1 and 15 recite that at least one plane of the each recess or protrusion initiates at least one plane of another protrusion or recess. Every embodiment of the sipe and sipe blade disclosed by Japan 923 teaches a sipe or sipe blade wherein the three-dimensional features of the sipe or sipe blade are spaced from one another. No single embodiment has one three dimensional feature having a plane that initiates a plane in another feature at the sipe or sipe blade centerline. Japan 923 specifically teaches that the sipe and sipe blade has a portion 37 in which no “side lobe” 35 or 36 is formed (para 12 of translation). The two-dimensional portions of the sipe blade appear to be crucial to the sipe, as, if the entire blade were formed of the three dimensional side lobes 35, 36, due to each lobe having connection rubbers 38, 39, removal of the blade from the tire would be very difficult.

As Japan 923 fails to disclose each and every element of the independent claims 1 and 15, it is requested that the rejection be reconsidered and withdrawn.

35 U.S.C. § 103

To establish *prima facie* obviousness, there 1) must be some suggestion or motivation in the art to modify or combine the references; 2) must be a reasonable expectation of success and 3) the combined references must teach or suggest all the claim limitations. Graham v. Deere

Claims 5-7, 9-11 and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Japan 923 and optionally Japan 925. This rejection is respectfully traversed for the following reasons.

As noted above, neither Japan 923 nor Japan 925 teach a sipe and sipe blade having a configuration wherein the three dimensional features have a plane that initiates a plane in another three dimensional feature at the sipe or sipe blade centerline. Thus, while Japan 923 and Japan 925 might suggest the use of polygonal configurations for the three dimensional features, the references fail to render the claims obvious as all of the claim limitations are not taught.

It is requested that this rejection be withdrawn and reconsidered.

Claim 10 has been rejected under 35 U.S.C. § 103 as being obvious over Japan 923 and optionally Japan 925 as applied above and further in view of Japan 105 or Japan 916.

Claim 10 recites that at least two of the planes are inclined at identical angles.

Japan 105 and Japan 916 are applied herein for suggestion of forming at least two planes of the projections at identical angles. Japan 105 shows a front view of protrusions and recesses, suggesting, though not clearly teaching, forming all four planes of the three dimensional elements at identical angles. Japan 916 teaches a sipe having a corrugated configuration wherein the planes forming the corrugation at identical angles.

As noted above, Japan 923 and Japan 925 fails to teach all of the elements of claims 1 and 15, notably, a configuration wherein each three dimensional feature has a plane that initiates a plane in another three dimensional feature at the sipe or sipe blade centerline. While Japan 105 and Japan 916 teach directly adjacent three dimensional sipe features, Japan 923 and Japan 925 teach that the two dimensional aspect of the sipes and blades are essential features of their inventions and one skilled in the art would not seek to destroy or remove this feature.

Thus, even if one would seek to form identically angled planes for the three dimensional sipe features of Japan 923 and Japan 925, as suggested by Japan 105 or Japan 916, the combined references fails to suggest or teach all of the claim limitations as required by Graham v. Deere. It is requested that this rejection be withdrawn.

Claim 11 has been rejected under 35 U.S.C. § 103 as being obvious over Japan 923 and optionally Japan 925 and in view of Japan 105 or Japan 916 as applied to the rejection of claim 10 and further in view of Lagnier.

This rejection fails to establish *prima facie* obviousness for the same reasons as set forth in the response to the rejection of claim 10.

Claims 8 and 12 have been rejected under 35 U.S.C. § 103(a) as being obvious over Japan 923 in view of Heinen (WO 99/48707).

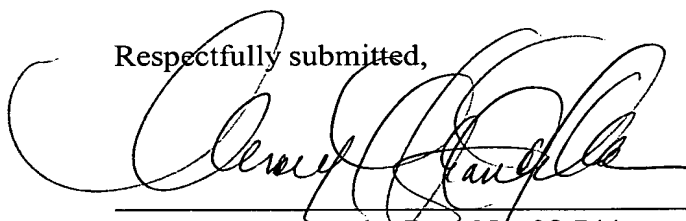
Claim 14 has been rejected under 35 U.S.C. § 103(a) as being obvious over Japan 923 in view of Maitre or Lagnier.

Claim 20 has been rejection under 35 U.S.C. § 103(a) as being obvious over Japan 923 in view of Heinen and/or Ishihara.

These rejections fail to establish *prima facie* obviousness for the similar reasons as set forth in the above rejections. The combination of references fails to teach or suggest all of the claim limitations. It is requested that these rejections also be reconsidered and withdrawn.

In light of this amendment, Applicants believe all of the claims now pending in the subject patent application are allowable. Thus, the Examiner is respectfully requested to allow all pending claims.

Respectfully submitted,



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